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(ID#2) _____

Site Address 1st Ave & 170th St SE

Date Copied 6-20-01 By Meek

- ☐ **Title page with the following information:**
  - o *Company (Author) name*
  - o *Report date*
  - o *Project Name*
  - o *Company's job number*
  - o *Site address*
- ☒ Executive Summary / Introduction of the report
- ☐ Table of contents
- ☒ Project Location Map / Vicinity Map
- ☒ **Site / Exploration Plans, Boring Location Plans**
- ☐ Cross-sections / Subsurface profiles
- ☐ **Exploration Logs**
- ☐ Monitoring Well Logs
- ☐ Cone Penetrometer Logs
- ☐ Groundwater Elevation Tables / Data

- ☐ Includes data from Previous Reports
- ☐ No new data / data review
- ☐ Missing Data / Illegible Data
  Explanation _____

Comments: _____

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4088

March 31, 1999
WA99-1847

Mr. Jack Willing
11555 Southeast Eighth Street, Suite 140
Bellevue, WA 98004

Subject: Geotechnical Evaluation
Hunters Crossing Development
First Avenue – Third Avenue and 170th Street Southeast
Snohomish County, Washington

Dear Mr. Willing:

This report summarizes our observations and conclusions, and provides geotechnical recommendations for development of the site. The location of the site is on the Location Map, Appendix A, Figure 1. Our services are provided at your request in accordance with our proposal (ADaPT Proposal No. P-1350, dated February 19, 1999). Our understanding of the project is based on our discussions with you, our review of the site plan provided and our site reconnaissance, and soils explorations completed as a part of our work scope.

The property currently supports a small single-story house with two out buildings and a gravel surfaced driveway that accesses the parcel from Third Avenue Southeast. The parcel generally slopes down from west to east. Current plans call for razing the existing structures and construction of a residential subdivision with associated easements, utilities, and roadways.

The purpose of our work is to conduct a geotechnical evaluation of the site and provide geotechnical recommendations for development of the site for the planned residential development. Specifically our scope includes the following:

99 103108

- Complete a subsurface exploration study of the site.
- Evaluate the site conditions with regard to slope stability.
- Provide building foundation design criteria.
- Develop earthwork and erosion control recommendations for the proposed site
- Provide geotechnical design criteria for retaining wall or embankment construction.
- Provide our recommendations for the management of site stormwater.
- Provide recommendations for on-site stormwater infiltration.

SITE CONDITIONS

SURFACE CONDITIONS

The subject site is a rectangular-shaped parcel located between First and Third Avenues Southeast and north of 170th Street Southeast in Snohomish County, Washington. According to tax assessment records, the site covers a reported 4.25 acres. The proposed 170th Street Southeast easement and utility corridors are depicted on the Site and Exploration Plan, Figure 2. The parcel currently supports a single-family house, two outbuildings, and a gravel roadway that accesses the site from 3rd Avenue Southeast to the east. A septic drain field is located just to the east of the existing house. Exclusive of the roadway and buildings, the property supports a second-growth fir and cedar forest with related understory assemblage of salal, ferns, and other shrubs. The site generally slopes down from west to east, and a swale located on the western half of the site is bisected by a small drainage. It should be noted that our field work followed a period of record rainfall. The eastern half of the property slopes moderately down to the east. Total topographic relief on the parcel is approximately 80 feet.

The site is bordered to the east and west by First and Third Avenues Southeast, respectively, beyond which are single-family residences; to the north by a single-family home that fronts First Avenue Southeast and wooded land, and to the south by older single-family residences. The site is located less than one mile southeast of Martha Lake.

SUBSURFACE CONDITIONS

Subsurface conditions at the site were assessed by excavating test pits utilizing a rubber-tire mounted backhoe that was under subcontract to our firm. Our subsurface exploration program included advancing nine (9) backhoe-excavated test pits to a maximum depth of 13 feet below ground surface (bgs). The test pits were advanced on February 25, 1999. The approximate location of the subsurface explorations are

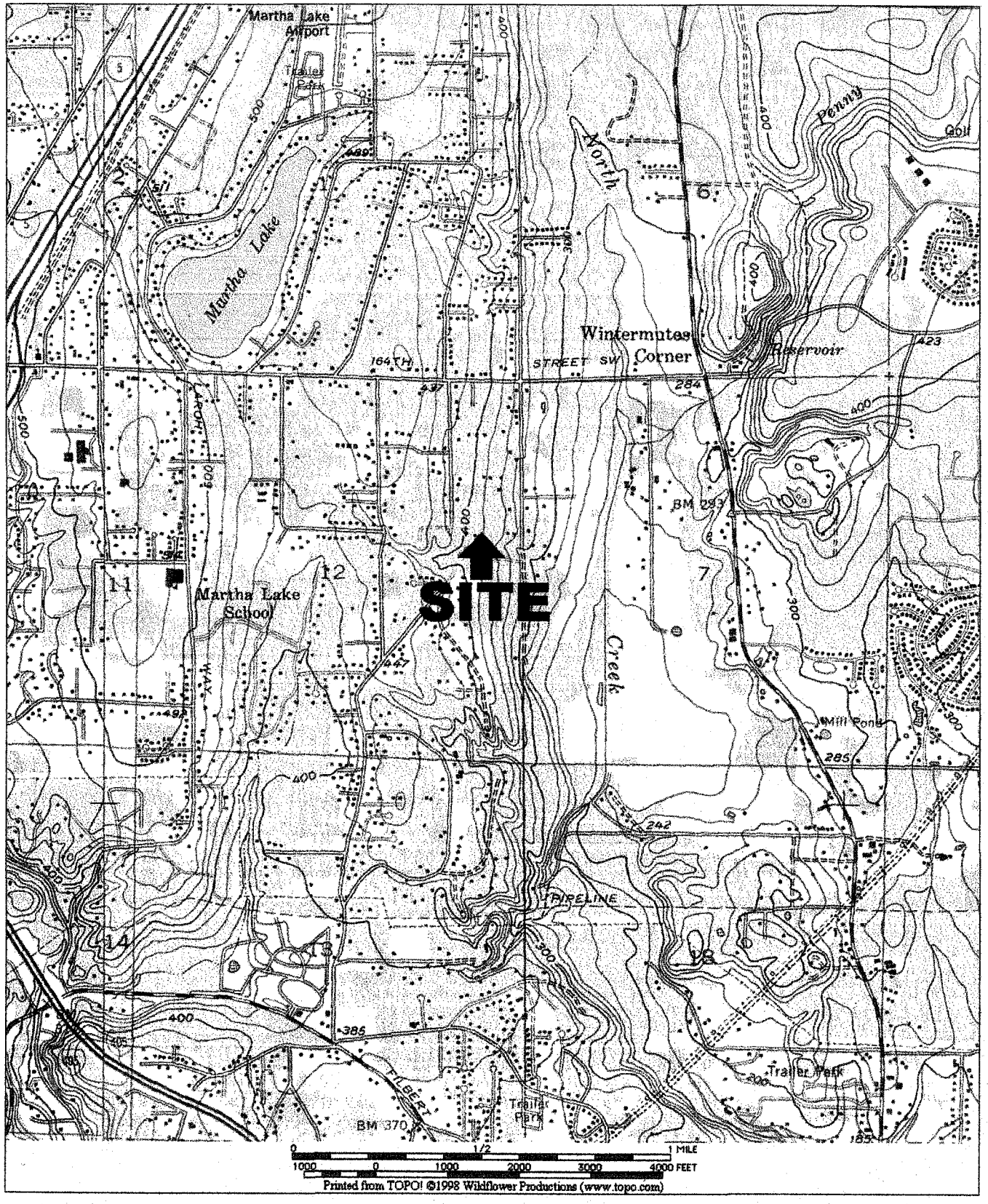

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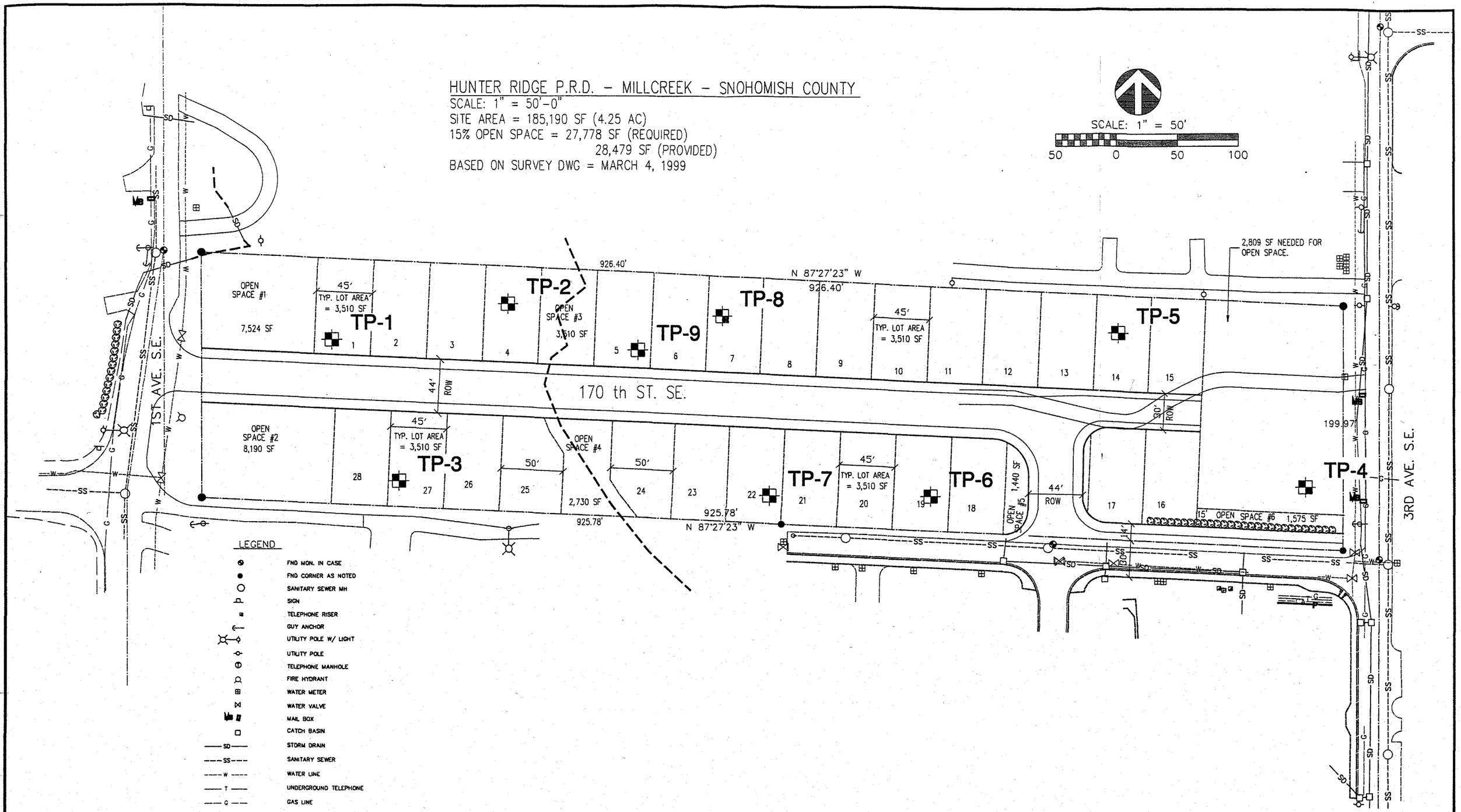
FIGURE 1 - Location/Topographic Map

Location : HUNTERS CROSSING
1st Avenue–3rd Avenue SE & 170th Street SE
Mill Creek, Washington 98012
Client : Mr. Jack Willing
Date : 03/25/99 **Job # :** S–WA–99–1847

HUNTER RIDGE P.R.D. – MILLCREEK – SNOHOMISH COUNTY
SCALE: 1" = 50'-0"
SITE AREA = 185,190 SF (4.25 AC)
15% OPEN SPACE = 27,778 SF (REQUIRED)
28,479 SF (PROVIDED)
BASED ON SURVEY DWG = MARCH 4, 1999

SCALE: 1" = 50'
50 0 50 100



LEGEND

	FND MON. IN CASE
	FND CORNER AS NOTED
	SANITARY SEWER MH
	SIGN
	TELEPHONE RISER
	GUY ANCHOR
	UTILITY POLE W/ LIGHT
	UTILITY POLE
	TELEPHONE MANHOLE
	FIRE HYDRANT
	WATER METER
	WATER VALVE
	MAIL BOX
	CATCH BASIN
—SD—	STORM DRAIN
—SS—	SANITARY SEWER
—W—	WATER LINE
—T—	UNDERGROUND TELEPHONE
—G—	GAS LINE
—CA—	UNDERGROUND CABLE TV
—P—	UNDERGROUND POWER
	ROCKERY
	ASPHALT PAVING
TP-3	TEST PIT NUMBER AND APPROXIMATE LOCATION

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FIGURE 2 - Site & Exploration Plan

Location : HUNTERS CROSSING
1st Avenue–3rd Avenue SE & 170th Street SE
Mill Creek, Washington 98012
Client : Mr. Jack Willing
Date : 03/25/99 **Job # :** S–WA–99–1847

TEST PIT LOGS

[redacted]

Depth (feet)	Material Description
0.0 – 0.4	Forest vegetation over black forest topsoil.
0.4 – 2.5	Loose grading to medium dense, moist, oxidized tan to tan-gray, silty, fine to medium SAND, some gravel, some cobbles to 6-inch diameter (weathered glacial till).
2.5 – 8.5	Very dense, moist (wet @ 2.5 to 3.5 feet), gray, silty, gravelly fine SAND with thin hard silt-rich zones and some cobbles to 6-inch diameter (unweathered glacial till).

Slow to moderate seepage observed at 2.5 to 3.5 feet, no caving observed.

[redacted]

Depth (feet)	Material Description
0.0 – 0.4	Forest vegetation over black forest topsoil.
0.4 – 3.2	Medium dense, moist, oxidized tan, silty, gravelly, fine to medium SAND, some cobbles to 6-inch diameter (weathered glacial till).
3.2 – 9.0	Very dense, moist (wet @ 3.0 to 3.5 feet), gray, silty, gravelly, fine SAND with some cobbles to 6-inch diameter (unweathered glacial till)..

Very slow seepage observed at 3.2 to 3.5 feet, no caving observed.

[redacted]

Depth (feet)	Material Description
0.0 – 0.4	Forest vegetation over black forest topsoil.
0.4 – 3.1	Loose grading to medium dense, moist, oxidized tan, silty, fine to medium SAND, some gravel, some cobbles to 4-inch diameter and tree roots (weathered glacial till).
3.1 – 9.5	Very dense, moist (wet @ 3.0 to 3.3 feet), gray, silty, gravelly, fine SAND with hard silt-rich zones and some cobbles to 6-inch diameter (unweathered glacial till).

Very slow seepage observed at 3.2 to 3.5 feet, no caving observed.

[redacted]

Depth (feet)	Material Description
0.0 – 0.3	Forest vegetation over black forest topsoil.
0.3 – 2.0	Loose, moist, oxidized brown, silty, fine to coarse SAND, some gravel and cobbles to 6-inch diameter and tree roots (weathered glacial till).
2.0 – 3.5	Medium dense, moist, oxidized tan, silty, fine to medium SAND, some gravel, some cobbles to 4-inch diameter and tree roots (weathered glacial till).
3.5 – 13.0	Very dense, moist (wet @ 3.0 to 3.3 feet), gray, silty, gravelly, fine SAND with hard silt-rich zones and some cobbles to 6-inch diameter (unweathered glacial till).

Very slow seepage observed at 3.5 feet and 11.5 to 12.0 feet, no caving observed.

[redacted]

Depth (feet)	Material Description
0.0 – 0.3	Forest vegetation over black forest topsoil.
0.3 – 3.0	Loose to medium dense, moist, oxidized tan grading to tan-gray, silty, gravelly, fine to medium SAND, some gravel, some cobbles to 6-inch diameter and tree roots (weathered glacial till).
3.0 – 9.5	Very dense, moist (wet @ 3.0 feet), gray, silty, gravelly, fine to coarse SAND with some cobbles to 6-inch diameter (unweathered glacial till).

Very slow seepage observed at 3.2 to 3.5 feet, no caving observed.

[redacted]

Depth (feet)	Material Description
0.0 – 0.4	Forest vegetation over black forest topsoil.
0.4 – 3.5	Loose grading to medium dense, moist, oxidized tan grading to brown, silty, fine to medium SAND, some gravel, some roots (weathered glacial till).
3.5 – 9.0	Very dense, moist (wet @ 3.5 feet), gray, silty, gravelly, fine SAND with some cobbles to 6-inch diameter (unweathered glacial till).

Moderate to fast seepage at 3.5 foot depth, no caving observed.

[redacted]

Depth (feet)	Material Description
0.0 – 0.4	Forest vegetation over black forest topsoil.
0.4 – 3.0	Loose grading to medium dense (@ 1.5 feet), moist, oxidized tan grading to brown, silty, gravelly, fine to medium SAND, some roots (weathered glacial till).
3.0 – 10.0	Very dense, moist (wet @ 3.0 feet), gray, silty, gravelly, fine SAND with some cobbles to 6-inch diameter (unweathered glacial till).

Trace seepage observed at 3.0 foot depth, no caving observed.

[redacted]

Depth (feet)	Material Description
0.0 – 0.3	Forest vegetation over black forest topsoil.
0.3 – 4.0	Loose grading to medium dense (@ 1.3 feet), moist, oxidized tan grading to brown, silty, gravelly, fine to medium SAND, some roots (weathered glacial till).
4.0 – 9.0	Very dense, moist (wet @ 3.0 feet), gray, gravelly, silty, fine SAND with some cobbles to 6-inch diameter (unweathered glacial till).

No seepage or caving observed.

Depth (feet)	Material Description
0.0 – 0.4	Forest vegetation over black forest topsoil.
0.4 – 1.5	Medium dense, moist, oxidized tan grading to brown, silty, gravelly, fine to medium SAND, some roots (weathered glacial till).
1.5 – 7.5	Very dense, moist (wet @ 3.0 feet), gray, gravelly, silty, fine SAND with some cobbles to 6-inch diameter (unweathered glacial till).
	trace seepage observed at 3.5 to 4.0 feet depth, no caving observed

Test pits were observed and logged by Charles Cacek of ADaPT Engineering, Inc. on February 25, 1999.